BHAVANA CK 1BM20CS403 CSE-4A

Program 7: Book Database

```
BOOK (Book_id, Title, Publisher_Name, Pub_Year)
BOOK_AUTHORS (Book_id, Author_Name)
PUBLISHER (Name, Address, Phone)
BOOK_COPIES (Book_id, Branch_id, No-of_Copies)
BOOK_LENDING (Book_id, Branch_id, Card_No, Date_Out, Due_Date)
LIBRARY BRANCH (Branch_id, Branch_Name, Address)
```

Write SQL queries to

- 1. Retrieve details of all books in the library id, title, name of publisher, authors, number of copies in each branch, etc.
- 2. Get the particulars of borrowers who have borrowed more than 3 books, but from Jan 2017 to Jun 2017
- 3. Delete a book in BOOK table. Update the contents of other tables to reflect this data manipulation operation.
- 4. Partition the BOOK table based on year of publication. Demonstrate its working with a simple query.
- 5. Create a view of all books and its number of copies that are currently available in the Library.

```
create database bookdb;
use bookdb;

create table publisher(
name varchar(30) not null,
address varchar(20) ,
phone varchar(10),
primary key(name)
);
```

```
create table book(
book id int not null,
title varchar(20),
publisher_name varchar(20),
pub year varchar(20),
primary key(book_id),
foreign key(publisher_name) references publisher(name)
);
create table book authors(
book id int not null,
author_name varchar(30) not null,
primary key(book_id,author_name),
foreign key(book id) references book(book id)
);
create table library branch(
branch id int not null,
address varchar(20),
branch name varchar(20),
primary key(branch_id)
);
create table book copies(
book id int not null,
branch id int not null,
no of copies int,
primary key(book id, branch id),
foreign key(book id) references book(book id),
foreign key(branch_id) references
library branch(branch id)
);
create table Card(
card no int(10) not null,
primary key(card_no)
);
```

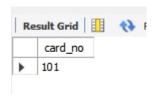
```
create table book lending(
 date out date,
 due date date,
 book id int not null,
 branch id int not null,
 card no int not null,
 primary key(book_id,branch_id,card_no),
foreign key(book_id) references book(book_id),
 foreign key(branch id) references
library_branch(branch_id),
 foreign key(card no) references Card(card no)
 );
 insert into publisher
 values('MCGRAW-HILL', 'BANGALORE',9989076587),
 ('PEARSON', 'NEWDELHI', 9889076565),
 ('RANDOM HOUSE', 'HYDRABAD', 7455679345),
 ('HACHETTE LIVRE', 'CHENAI', 8970862340),
('GRUPO PLANETA', 'BANGALORE', 7756120238);
insert into book
values(1,'DBMS', 'MCGRAW-HILL','JAN-2017'),
 (2,'ADBMS', 'MCGRAW-HILL','JUN-2016'),
 (3,'CN', 'PEARSON','SEP-2016'),
 (4,'CG', 'GRUPO PLANETA','SEP-2015'),
 (5,'OS', 'PEARSON','MAY-2016');
 insert into book authors
 values(1,'NAVATHE'),
 (2,'NAVATHE'),
 (3,'TANENBAUM'),
 (4, 'EDWARD ANGEL'),
(5,'GALVIN');
insert into library branch
values(10,'RR NAGAR','BANGALORE'),
```

```
(11, 'RNSIT', 'BANGALORE'),
 (12, 'RAJAJI NAGAR', 'BANGALORE'),
 (13, 'NITTE', 'MANGALORE'),
 (14, 'MANIPAL', 'UDUPI');
 insert into book copies
 values(1, 10,10),
 (1, 11, 5),
 (2, 12, 2),
 (2, 13, 5),
 (3, 14, 7),
 (5, 10, 1),
(4, 11,3);
insert into Card
values(100),
(101),
(102),
(103),
(104);
insert into book lending
values('2017-01-01','2017-06-01', 1, 10, 101),
('2017-01-01','2017-03-11', 3, 14, 101),
('2017-02-21','2017-04-21', 2, 13, 101),
 ('2017-03-15', '2017-07-15', 4, 11, 101),
 ('2017-04-12','2017-05-12', 1, 11, 104);
-----Retrieve details of all books in the library – id, title, name of
publisher, authors, number of copies in each branch, etc.
select
b.book id,b.title,b.publisher name,a.author name,c.no of copies,l.branc
h id
from book b, book authors a, book copies c, library branch l
where b.book id=a.book id and b.book id=c.book id and
1.branch id=c.branch id;
```



-----Get the particulars of borrowers who have borrowed more than 3 books, but from Jan 2017 to Jun 2017

select card_no from book_lending where date_out between '2017-01-01' and '2017-07-01' group by card_no having count(*)>3;



-----Delete a book in BOOK table. Update the contents of other tables to reflect this data manipulation operation.

DELETE FROM BOOK WHERE BOOK_ID=3;

select * from book;

	BOOK_ID	TITLE	PUB_YEAR	PUBLISHER_NAME
•	1	DBMS	JAN-2017	MCGRAW-HILL
	2	ADBMS	JUN-2016	MCGRAW-HILL
	4	CG	SEP-2015	GRUPO PLANETA
	5	OS	MAY-2016	PEARSON
	NULL	NULL	NULL	NULL

select * from book_authors;

	AUTHOR_NAME	BOOK_ID	
•	NAVATHE	1	
	NAVATHE	2	
	EDWARD ANGEL	4	
	GALVIN	5	
	NULL	HULL	

select * from book lending;

	DATE_OUT	DUE_DATE	BOOK_ID	BRANCH_ID	CARD_NO
Þ	2017-01-01	2017-06-01	1	10	101
	2017-04-12	2017-05-12	1	11	104
	2017-02-21	2017-04-21	2	13	101
	2017-01-17	2017-03-17	3	14	101
	2017-03-15	2017-07-15	4	11	101
	NULL	NULL	NULL	NULL	NULL

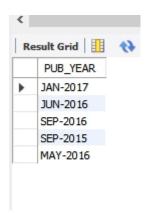
select * from book_copies;

	NO_OF_COPIES	BOOK_ID	BRANCH_ID
>	10	1	10
	5	1	11
	2	2	12
	5	2	13
	3	4	11
	1	5	10
	NULL	NULL	NULL

-----Partition the BOOK table based on year of publication. Demonstrate its working with a simple query.

CREATE VIEW YEAR_OF_PUBLICATION AS SELECT PUB_YEAR FROM BOOK;

SELECT * FROM YEAR_OF_PUBLICATION;



-----Create a view of all books and its number of copies that are currently available in the Library.

CREATE VIEW BOOKS_AVAILABLE_IN_LIBRARY
AS SELECT B.BOOK_ID, B.TITLE, C.NO_OF_COPIES FROM
BOOK B, BOOK_COPIES C, LIBRARY_BRANCH L
WHERE B.BOOK_ID=C.BOOK_ID AND
C.BRANCH ID=L.BRANCH ID;

SELECT * FROM BOOKS_AVAILABLE_IN_LIBRARY;

